

CLAIMS

1 1. A method for caching rasterized image data, the method comprising of:
2 receiving image data;
3 searching for rasterized image data that corresponds to the image data;
4 rasterizing the image data to form rasterized information, if the rasterized
5 image data corresponding to the image data is not found during searching; and
6 storing the rasterized information.

1 2. The method of claim 1, further comprising of:
2 generating a catalog code, wherein the catalog code is defined by and assigned
3 to the image data.

1 3. The method of claim 2, wherein searching further comprises:
2 searching in a data structure, wherein the data structure is configured to
3 include a data entry with the rasterized image data having the same catalog code as the
4 image data, wherein the result of a successful search produces a file name and file
5 location of the rasterized image data.

1 4. The method of claim 3, further comprising of:
2 retrieving the rasterized image data from a non-volatile memory element, from
3 the file name and file location of the rasterized image data produced by the search.

1 5. The method of claim 3, further comprising:
2 generating a file name and file location for the rasterized information, wherein
3 the file name is defined by the catalog code.

1 6. The method of claim 5, wherein storing the rasterized information
2 comprises:
3 writing the rasterized information to a file location with a generated file name
4 in a non-volatile memory element; and
5 adding the data entry corresponding to the rasterized information to the data
6 structure.

1 7. The method of claim 3, wherein the data structure is stored in a random
2 access memory (RAM) element.

1 8. The method of claim 3, further comprising:
2 providing a device housing the data structure;
3 backing up the data structure to a non-volatile memory element upon proper
4 shutdown of the device,
5 retrieving the data structure backed up from the non-volatile memory element
6 upon start-up after a proper shutdown; and
7 rebuilding the data structure from the non-volatile memory element upon start-
8 up after an improper shutdown.

1 9. The method of claim 1, further comprising:
2 incrementing a cache hit counter upon successfully finding the rasterized
3 image data corresponding to the image data.

1 10. The method of claim 1, further comprising:
2 rendering the rasterized image data, if the rasterized image data corresponding
3 to the image data is found; and
4 rendering the rasterized information, if the rasterized image data
5 corresponding to the image data is not found.

1 11. An image data caching system comprising:
2 first programmable logic configured to search for rasterized image data
3 corresponding to image data;
4 a raster image processor configured to rasterize the image data into rasterized
5 information, if the rasterized image data corresponding to the image data is not found;
6 and
7 second programmable logic configured to store the rasterized information.

1 12. The system of claim 11, further comprising:
2 third programmable logic configured to generate a catalog code defined by and
3 assigned to the image data.

1 13. The system of claim 12, wherein the first programmable logic is further
2 configured to search a data structure, wherein the data structure is configured to
3 include a data entry with the rasterized image data having the same catalog code as the
4 image data, wherein the result of a successful search produces a file name and file
5 location of the rasterized image data.

1 14. The system of claim 13, further comprising:
2 a non-volatile memory element configured to store the rasterized image data;
3 and
4 fourth programmable logic configured to retrieve the rasterized image data
5 from the non-volatile memory from the file name and file location of the rasterized
6 image data produced by the search.

1 15. The system of claim 14, further comprising:
2 fifth programmable logic configured to generate a file name and file location
3 for the rasterized information, wherein the file name is defined by the catalog code.

1 16. The system of claim 15, wherein the second programmable logic is
2 further configured to write the rasterized information to a file location with a
3 generated file name to the non-volatile memory and add a new data entry
4 corresponding to the rasterized information to the data structure.

1 17. The system of claim 13, further comprising:
2 a random access memory (RAM) element configured to store the data
3 structure.

1 18. The system of claim 13, further comprising:
2 a non-volatile memory element configured to store a back-up of the data
3 structure;
4 sixth programmable logic configured to back-up, upon a proper shutdown, the
5 data structure to the non-volatile memory element, the logic further configured to
6 retrieve, upon start-up after a proper shutdown, the back-up of the data structure from
7 the non-volatile memory, and to rebuild, upon a start-up after an improper shutdown,
8 the data structure from the non-volatile memory element.

1 19. The system of claim 11, further comprising:
2 seventh programmable logic configured to retain a cache hit counter, the
3 programmable logic further configured to increment the cache hit counter upon
4 successfully finding the rasterized image data that corresponds to the image data.

1 20. The system of claim 11, further comprising:
2 a printing engine configured to render at least one of the rasterized image data
3 and the rasterized information.

1 21. A computer readable medium comprising:
 2 first programmable logic configured to search for rasterized image data
 3 corresponding to image data;
 4 second programmable logic configured to rasterize the image data into
 5 rasterized information, if the rasterized image data corresponding to the image data is
 6 not found; and
 7 third programmable logic configured to store the rasterized information.

1 22. The computer readable medium of claim 21, further comprising:
 2 fourth programmable logic configured to generate a catalog code defined by
 3 and assigned to the image data.

1 23. The computer readable medium of claim 22, further comprising:
 2 fifth programmable logic configured to generate a file name and file location
 3 for the rasterized information, wherein the file name is defined by the catalog code.

1 24. The computer readable medium of claim 23, further comprising:
 2 sixth programmable logic configured to back-up, upon a proper shutdown, a
 3 data structure associated with the stored information.